

PATENT

Docket No. RSW920030089US1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

INVENTORS:	David A. Selby	Confirmation No. 1932
APPLICATION NO.	10/806,204	
FILED:	March 22, 2004	Examiner: A. Boyce
CASE NO.	RSW920030089US1	Group Art Unit: 3623
TITLE:	SYSTEM, METHOD, AND COMPUTER PROGRAM PRODUCT FOR INCREASING THE EFFECTIVENESS OF CUSTOMER CONTACT STRATEGIES	

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Commissioner for Patents
MAIL STOP APPEAL BRIEF-PATENTS
P.O. Box 1450
Alexandria, VA 22313-1450

Attention: Board of Patent Appeals and Interferences

APPELLANTS' BRIEF

This brief is in furtherance of the Notice of Appeal filed in this case on August 23, 2010. The Commissioner is authorized to charge the fee for filing of this Appeal Brief to Deposit Account No. 09-0457.

1. REAL PARTY IN INTEREST

The present application is assigned to International Business Machines Corporation, having its principal place of business at New Orchard Road, Armonk, New York 10504. Accordingly, International Business Machines Corporation is the real party in interest.

2. RELATED APPEALS AND INTERFERENCES

The appellant, assignee, and the legal representatives of both are unaware of any other appeal or interference which will directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

3. STATUS OF CLAIMS

- A. Claims canceled: None
- B. Claims withdrawn from consideration but not canceled: None
- C. Claims pending: 1-24
- D. Claims allowed: none
- E. Claims rejected: 1-24
- F. Claims appealed: 1-24

Appealed claims 1-24 as currently pending are attached as the Claims Appendix hereto.

4. STATUS OF AMENDMENTS

A Reply under 37 C.F.R. §1.111 was filed on December 19, 2008; claim amendments were made. In response, the Examiner issued a final Office Action on March 17, 2009. A Reply under 37 C.F.R. §1.116 was filed on July 17, 2009; claim amendments were made. In response to an Advisory Action mailed August 7, 2009, Applicant filed a Request for Continued Examination (RCE) on September 17, 2009 wherein applicant requested the Office to

consider the Third Declaration of David A. Selby, as revised in accordance with the Examiner's suggestions, submitted with the RCE. In response, the Examiner issued a non-final Office Action on November 25, 2009. A Request for Reconsideration was filed on March 25, 2010; no claim amendments were made. In response, the Examiner issued the final Office Action being appealed herein.

A Notice of Appeal was filed on August 23, 2010.

5. SUMMARY OF THE CLAIMED SUBJECT MATTER

Claim 1: A computer-implemented method for selecting an optimal set of events to be performed, where each event has a value and where the selection of any event reduces or leaves unchanged the value of unselected events, comprising the following computer-implemented steps: performing with a processor a first sort on all unselected events to form a pending event list, so that the events are ordered sequentially by their values, with the highest valued event being at the top of the pending event list (*paragraphs 0032 – 0033 and Figure 3 of the application as filed*); selecting with said processor the highest valued unselected event upon the occurrence of a predetermined trigger (*paragraph 0042 and Figure 5 of the application as filed*); recomputing with said processor the values of each event after the selection of the highest valued unselected event (*paragraphs 0042 - 0044 of the application as filed*); and moving with said processor the highest valued unselected event, after performance of the recomputing step, to the top of the pending event list without performing a second sort of the entire pending event list (*paragraphs 0042 - 0044 of the application as filed*).

Claim 9: A system for selecting an optimal set of events to be performed, where each event has a value and where the selection of any event reduces or leaves unchanged the value of unselected events, comprising: means for performing a first sort on all unselected events to form a pending event list, so that the events are ordered sequentially by their values, with the highest valued event being at the top of the pending event list (*paragraphs 0032 – 0033 and Figure 3 of the application as filed*); means for selecting the highest valued unselected event upon the occurrence of a predetermined trigger (*paragraph 0042 and Figure 5 of the application as filed*); means for recomputing the values of each event after the selection of the highest valued unselected event (*paragraphs 0042 - 0044 of the application as filed*); and means for moving the highest valued unselected event, after performance of the recomputing step, to the top of the pending event list without performing a second sort of the entire pending event list (*paragraphs 0042 - 0044 of the application as filed*).

Claim 17: A computer program product for selecting an optimal set of events to be performed, where each event has a value and where the selection of any event reduces or leaves unchanged the value of unselected events, the computer program product comprising a computer-readable storage medium having computer-readable program code embodied in the medium, the computer-readable program code comprising: computer-readable program code that performs a first sort on all unselected events to form a pending event list, so that the events are ordered sequentially by their values, with the highest valued event being at the top of the pending event list (*paragraphs 0032 – 0033 and Figure 3 of the application as filed*); computer-readable program code that selects the highest valued unselected event upon the occurrence of a

predetermined trigger (*paragraph 0042 and Figure 5 of the application as filed*); computer-readable program code that recomputes the values of each event after the selection of the highest valued unselected event (*paragraphs 0042 - 0044 of the application as filed*); and computer-readable program code that moves the highest valued unselected event, after performance of the recomputing step, to the top of the pending event list without performing a second sort of the entire pending event list (*paragraphs 0042 - 0044 of the application as filed*).

The claimed invention is a method, system, and computer-program-product for selecting an optimal set of events to be performed. Each event has a value, such as an expected gain. The selection of any event reduces or leaves unchanged the value of unselected events. As set forth in the claims, a first sort is performed on all unselected events to form a pending event list, so that the events are ordered sequentially by their values, with the highest valued event being at the top of the pending event list. Then, the highest valued unselected event is selected upon the occurrence of a predetermined trigger. Next (i.e., after the selection of the highest valued unselected event), the values of each event are recomputed, and then the highest valued unselected event is moved to the top of the pending event list. Of significance, the highest valued unselected event is moved to the top of the pending event list *without performing a second sort of the entire pending event list*.

6. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Applicant requests the Board to review the following rejections:

1. Rejection of claims 1-4, 7-12, 15-20, 23 and 24 under 35 U.S.C. §102(e) based on U.S. Patent Application Publication No. 2007/0055570 to Martin; and
2. Rejection of 5, 6, 13, 14, 21 and 22 under 35 U.S.C. §103(a) based on U.S. Patent Application Publication No. 2007/0055570 to Martin.

7. ARGUMENT

1. **Rejection of claims 1-4, 7-12, 15-20, 23 and 24 under 35 U.S.C. §102(e) based on U.S. Patent Application Publication No. 2007/0055570 to Martin**

The Cited Prior Art Does Not Anticipate the Claimed Invention

The MPEP and case law provide the following definition of anticipation for the purposes of 35 U.S.C. §102:

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference."
(*Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987) M.P.E.P. §2131.

Applicant acknowledges that Martin discusses the sorting of resource allocation and or targeting with respect to customers, based on the adjustment of the priority of a random selection of customers and/or customer segments (defined in Martin as a set of customers sharing the same characteristics, such as buying habits – see e.g., paragraph 0006 of Martin). Martin also talks about adjusting priority lists to revise targeting and/or resource allocation (see paragraphs 0061 and 0062 of Martin). Martin also discusses measuring results of segments of customers to adjust customer

prioritization, including an example where an upward adjustment in targeting priority can be made for a customer segment that has a higher response to promotions than others.

The claimed invention, however, requires that the highest valued unselected event is moved to the top of the pending event list without performing a sort of the entire pending event list. While Martin does describe changing the order of a promotional list, nothing in Martin teaches, or even remotely suggests, the claimed aspect of moving the highest valued unselected event to the top of the pending event list without performing a second sort of the entire pending event list, which as Applicant indicates, can be performed using a bubble or lazy sort..

As noted above and in the present specification, the use of the lazy sort process enables the movement of the highest-valued unselected event to the top of the pending event list *without performing a second sort*. An example given of one such lazy sort is a bubble sort. Applicant does not claim to have invented sorting, or lazy sorting, or bubble sorting. However, Applicant has developed the novel approach to increasing contact strategies wherein there is no need to go through the time-consuming and processing-intensive task of sorting each and every record *each time an event has been selected*. Instead, Applicant's development saves time and processing power by realizing that as long as the highest-valued unselected event is at the top, the order of the remaining events (which will all have values lower than the one now on top) is irrelevant. Thus, there is no need to reorder the entire list each time, as is done in the prior art (including in Martin). While Martin may discuss *re-sorting* using less than the entire list (using a random selection rather than all of them), Martin is still, nonetheless, performing a re-sort. The claimed invention does not.

Since all of the claims recite this feature, and since none of the prior art teaches or suggests this claimed feature, then all of the claims patentably define over Martin.

**2. Rejection of 5, 6, 13, 14, 21 and 22 under
35 U.S.C. §103(a) based on U.S. Patent
Application Publication No. 2007/0055570 to Martin**

For the same reasons as those set forth above with regard to the §102 rejection, applicant submits that none of the prior art teaches or suggests the present invention as claimed in claims 5, 6, 13, 14, 21 and 22, and all of the claims patentably define over Martin.

Accordingly, the Board is respectfully requested to reconsider and withdraw the rejection of claims 5, 6, 13, 14, 21 and 22 under 35 USC §103.

8. CONCLUSION

For the foregoing reasons applicants respectfully request this Board to overrule the Examiner's rejections and allow claims 1-24.

Respectfully submitted:

Date: October 25, 2010

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CLAIMS APPENDIX

CLAIMS INVOLVED IN THIS APPEAL:

1. A computer-implemented method for selecting an optimal set of events to be performed, where each event has a value and where the selection of any event reduces or leaves unchanged the value of unselected events, comprising the following computer-implemented steps:

performing with a processor a first sort on all unselected events to form a pending event list, so that the events are ordered sequentially by their values, with the highest valued event being at the top of the pending event list;

selecting with said processor the highest valued unselected event upon the occurrence of a predetermined trigger;

recomputing with said processor the values of each event after the selection of the highest valued unselected event; and

moving with said processor the highest valued unselected event, after performance of the recomputing step, to the top of the pending event list without performing a second sort of the entire pending event list.

2. The method of claim 1, whereby the selecting, recomputing, and moving steps are iteratively performed until the occurrence of a predetermined condition.

3. The method of claim 2, whereby said predetermined condition comprises the selection of a predetermined number of events.

4. The method of claim 2, wherein each event has a cost associated with its selection, whereby said predetermined condition comprises the reaching of a predetermined cost total for said selected events.

5. The method of claim 2, wherein said moving step comprises the performance of a truncated bubble sort with said processor on the events based on their recomputed values.

6. The method of claim 2, wherein said moving step comprises the performance of a binary chop sorting process with said processor on the events based on their recomputed values.

7. The method of claim 1, wherein the value of each event comprises each event's expected gain.

8. The method of claim 7, wherein said recomputing process comprises performing with said processor a saturation process on said unselected events.

9. A system for selecting an optimal set of events to be performed, where each event has a value and where the selection of any event reduces or leaves unchanged the value of unselected events, comprising:

means for performing a first sort on all unselected events to form a pending event list, so that the events are ordered sequentially by their values, with the highest valued event being at the top of the pending event list;

means for selecting the highest valued unselected event upon the occurrence of a predetermined trigger;

means for recomputing the values of each event after the selection of the highest valued unselected event; and

means for moving the highest valued unselected event, after performance of the recomputing step, to the top of the pending event list without performing a second sort of the entire pending event list.

10. The system of claim 9, whereby the selecting, recomputing, and moving means perform their functions iteratively until the occurrence of a predetermined condition.

11. The system of claim 10, whereby said predetermined condition comprises the selection of a predetermined number of events.

12. The system of claim 10, wherein each event has a cost associated with its selection, whereby said predetermined condition comprises the reaching of a predetermined cost total for said selected events.

13. The system of claim 10, wherein said moving means includes means for performing a truncated bubble sort on the events based on their recomputed values.

14. The system of claim 10, wherein said moving means includes means for performing a binary chop sorting process on the events based on their recomputed values.

15. The system of claim 9, wherein the value of each event comprises each event's expected gain.

16. The system of claim 15, wherein said recomputing means includes means for performing a saturation process on said unselected events.

17. A computer program product for selecting an optimal set of events to be performed, where each event has a value and where the selection of any event reduces or leaves unchanged the value of unselected events, the computer program product comprising a computer-readable storage medium having computer-readable program code embodied in the medium, the computer-readable program code comprising:

computer-readable program code that performs a first sort on all unselected events to form a pending event list, so that the events are ordered sequentially by their values, with the highest valued event being at the top of the pending event list;

computer-readable program code that selects the highest valued unselected event upon the occurrence of a predetermined trigger;

computer-readable program code that recomputes the values of each event after the selection of the highest valued unselected event; and

computer-readable program code that moves the highest valued unselected event, after performance of the recomputing step, to the top of the pending event list without performing a second sort of the entire pending event list.

18. The computer program product of claim 17, whereby the computer-readable program code for selecting, recomputing, and moving perform their functions iteratively until the occurrence of a predetermined condition.

19. The computer program product of claim 18, whereby said predetermined condition comprises the selection of a predetermined number of events.

20. The computer program product of claim 18, wherein each event has a cost associated with its selection, whereby said predetermined condition comprises the reaching of a predetermined cost total for said selected events.

21. The computer program product of claim 18, wherein said computer-readable program code for moving comprises computer-readable program code for performing a truncated bubble sort on the events based on their recomputed values.

22. The computer program product of claim 18, wherein said computer-readable program code for moving comprises computer-readable program code for performing a binary chop sorting process on the events based on their recomputed values.

23. The computer program product of claim 17, wherein the value of each event comprises each event's expected gain.

24. The computer program product of claim 7, wherein said computer-readable program code for recomputing comprises computer-readable program code for performing a saturation process on said unselected events.

EVIDENCE APPENDIX

No additional evidence is presented.

RELATED PROCEEDINGS APPENDIX

No related proceedings are presented.